

WHAT IS CLAIMED IS:

1. A pantograph jack comprising, in combination:
 - a base;
 - a load rest;
 - first and second lower arms each pivotably coupled at a first end thereof to the base;
 - first and second upper arms each pivotably coupled at a first end thereof to the load rest;
 - wherein second ends of the first lower arm and the first upper arm are pivotably coupled at a first joint;
 - wherein second ends of the second lower arm and the second upper arm are pivotably coupled at a second joint;
 - wherein the first and second joints are disposed on a substantially horizontal diagonal of a parallelogram formed by the first and second lower arms and the first and second upper arms;
 - a drive screw extending between the first and second joints and operably moving the first and second joints toward and away from each other upon rotation of the drive screw about a longitudinal axis of the drive screw coaxial with the diagonal;
 - a bearing support forming a bearing engagement surface along the central axis and outwardly spaced from the second lower arm and the second upper arm;
 - wherein the bearing engagement surface has a lateral width greater than a lateral width of at least one of the second lower arm and the second upper arm;
 - wherein the drive screw has an abutment facing the bearing engagement surface;
 - a bearing having an opening coaxial with the drive screw and receiving the drive screw therethrough; and
 - wherein the bearing located between the bearing engagement surface and the abutment.
2. The pantograph jack according to claim 1, wherein the bearing is a thrust bearing.

3. The pantograph jack according to claim 2, wherein the bearing includes an inner race, an outer race, and a plurality of rolling elements between the inner and outer races, and wherein the outer race rotates with the drive screw.

4. The pantograph jack according to claim 1, wherein the bearing has a lateral width greater than a lateral width of at least one of the second lower arm and the second upper arm.

5. The pantograph jack according to claim 1, wherein the second joint includes a trunion forming a lateral pivot axis of the second joint, wherein the bearing support is a yoke including a main wall forming the bearing engagement surface and spaced apart side walls extending from the main wall to the trunion, and wherein the side walls have openings receiving the trunion therein.

6. The pantograph jack according to claim 5, wherein the side walls extend laterally outward of the second lower arm and the second upper arm at the second joint.

7. The pantograph jack according to claim 1, wherein the second joint includes a trunion forming a lateral pivot axis of the second joint, wherein the bearing support is a spacer including a main wall forming the bearing engagement surface and spaced apart side walls extending from the main wall to the trunion, and wherein the side walls have trunion engaging surfaces engaging the trunion.

8. The pantograph jack according to claim 7, wherein the side walls extend laterally outward of the second lower arm and the second upper arm at the second joint.

9. The pantograph jack according to claim 1, wherein the second joint includes a trunion forming a lateral pivot axis of the second joint, wherein the bearing support is a bushing including a main body having a passage through which the drive screw extends and having a

flange at a first end which forms the bearing engagement surface, and wherein a second end of the main body engages the trunion.

10. A pantograph jack comprising, in combination:

a base;

a load rest;

first and second lower arms each pivotably coupled at a first end thereof to the base;

first and second upper arms each pivotably coupled at a first end thereof to the load rest;

wherein second ends of the first lower arm and the first upper arm are pivotably coupled at a first joint;

wherein second ends of the second lower arm and the second upper arm are pivotably coupled at a second joint;

wherein the first and second joints are disposed on a substantially horizontal diagonal of a parallelogram formed by the first and second lower arms and the first and second upper arms;

a drive screw extending between the first and second joints and operably moving the first and second joints toward and away from each other upon rotation of the drive screw about a longitudinal axis of the drive screw coaxial with the diagonal;

a bearing support forming a bearing engagement surface along the central axis;

wherein the drive screw has an abutment facing the bearing engagement surface;

a bearing having an opening coaxial with the drive screw and receiving the drive screw therethrough;

wherein the bearing is outwardly spaced from the second lower arm and the second upper arm;

wherein the bearing has a lateral width greater than a lateral width of at least one of the second lower arm and the second upper arm; and

wherein the bearing is located between the bearing engagement surface and the abutment.

11. The pantograph jack according to claim 10, wherein the bearing is a thrust bearing.

12. The pantograph jack according to claim 11, wherein the bearing includes an inner race, an outer race, and a plurality of rolling elements between the inner and outer races, and wherein the outer race rotates with the drive screw.

13. The pantograph jack according to claim 10, wherein the bearing engagement surface is outwardly spaced from the second lower arm and the second upper arm and has a lateral width greater than a lateral width of at least one of the second lower arm and the second upper arm.

14. The pantograph jack according to claim 10, wherein the second joint includes a trunion forming a lateral pivot axis of the second joint, wherein the bearing support is a yoke including a main wall forming the bearing engagement surface and spaced apart side walls extending from the main wall to the trunion, and wherein the side walls have openings receiving the trunion therein.

15. The pantograph jack according to claim 14, wherein the side walls extend laterally outward of the second lower arm and the second upper arm at the second joint.

16. The pantograph jack according to claim 10, wherein the second joint includes a trunion forming a lateral pivot axis of the second joint, wherein the bearing support is a spacer including a main wall forming the bearing engagement surface and spaced apart side walls extending from the main wall to the trunion, and wherein the side walls have trunion engaging surfaces engaging the trunion.

17. The pantograph jack according to claim 16, wherein the side walls extend laterally outward of the second lower arm and the second upper arm at the second joint.

18. The pantograph jack according to claim 10, wherein the second joint includes a trunion forming a lateral pivot axis of the second joint, wherein the bearing support is a bushing

including a main body having a passage through which the drive screw extends and having a flange at a first end which forms the bearing engagement surface, and wherein a second end of the main body engages the trunion.

19. A pantograph jack comprising, in combination:

a base;

a load rest;

first and second lower arms each pivotably coupled at a first end thereof to the base;

first and second upper arms each pivotably coupled at a first end thereof to the load rest;

wherein second ends of the first lower arm and the first upper arm are pivotably coupled at a first joint;

wherein second ends of the second lower arm and the second upper arm are pivotably coupled at a second joint;

wherein the first and second joints are disposed on a substantially horizontal diagonal of a parallelogram formed by the first and second lower arms and the first and second upper arms;

a drive screw extending between the first and second joints and operably moving the first and second joints toward and away from each other upon rotation of the drive screw about a longitudinal axis of the drive screw coaxial with the diagonal;

a bearing support forming a bearing engagement surface along the central axis;

wherein the drive screw has an abutment facing the bearing engagement surface;

a bearing having an opening coaxial with the drive screw and receiving the drive screw therethrough;

wherein the second lower arm and the second upper arm each form a longitudinally extending channel;

wherein the bearing is located outside the channel of the second lower arm and the channel of the second upper arm;

wherein the bearing has a lateral width greater than a lateral width of the channel of the second lower arm and a lateral width of the channel of the second upper arm; and

wherein the bearing located between the bearing engagement surface and the abutment.

20. The pantograph jack according to claim 19, wherein the bearing is a thrust bearing.

21. The pantograph jack according to claim 20, wherein the bearing includes an inner race, an outer race, and a plurality of rolling elements between the inner and outer races, and wherein the outer race rotates with the drive screw.

22. The pantograph jack according to claim 19, wherein the bearing is outwardly spaced from the second lower arm and the second upper arm.

23. The pantograph jack according to claim 19, wherein the bearing engagement surface is outwardly spaced from the second lower arm and the second upper arm and has a lateral width greater than a lateral width of the channel of the second lower arm and a lateral width of the channel of the second upper arm.

24. The pantograph jack according to claim 19, wherein the second joint includes a trunion forming a lateral pivot axis of the second joint, wherein the bearing support is a yoke including a main wall forming the bearing engagement surface and spaced apart side walls extending from the main wall to the trunion, and wherein the side walls have openings receiving the trunion therein.

25. The pantograph jack according to claim 24, wherein the side walls extend laterally outward of the second lower arm and the second upper arm at the second joint.

26. The pantograph jack according to claim 19, wherein the second joint includes a trunion forming a lateral pivot axis of the second joint, wherein the bearing support is a spacer including a main wall forming the bearing engagement surface and spaced apart side walls extending from the main wall to the trunion, and wherein the side walls have trunion engaging surfaces engaging the trunion.

27. The pantograph jack according to claim 26, wherein the side walls extend laterally outward of the second lower arm and the second upper arm at the second joint.

28. The pantograph jack according to claim 19, wherein the second joint includes a trunion forming a lateral pivot axis of the second joint, wherein the bearing support is a bushing including a main body having a passage through which the drive screw extends and having a flange at a first end which forms the bearing engagement surface, and wherein a second end of the main body engages the trunion.